What is claimed is:

1. A semiconductor laser of a distributed feedback type for emitting light with plural Fabry-Perot modes and a Bragg grating mode, the laser comprising:

an active region made of a semiconductor material;

a Bragg grating for defining the Bragg grating mode;

a light-reflecting surface for reflecting light generated in the active region; and

a light-emitting surface providing with an anti-reflective coating thereon, the light-emitting surface with the anti-reflective coating having a reflectivity, the light-emitting surface and the light-reflecting surface forms a Fabry-Perot resonator combined with the active region therebetween for defining the plural Fabry-Perot modes,

wherein the reflectivity of the light-emitting surface has a minimum at a wavelength where an gain spectrum attributed to the Fabry-Perot modes is maximum at a predetermined temperature.

2. The semiconductor laser of the distributed feedback type according to claim 1, wherein the minimum reflectivity of the light-emitting surface with the anti-reflective coating is smaller than 0.3%.

3. The semiconductor laser of the distributed feedback type according to claim 2, wherein the minimum reflectivity of the light-emitting surface with the anti-reflective coating is smaller than 0.1%.

4. The semiconductor laser of the distributed feedback type according to claim 1, wherein a gain attributed to the Bragg grating mode is greater than the gain

attributed to the Fabry-Perot modes at the predetermined temperature.

5. The semiconductor laser of the distributed feedback type according to claim 1, wherein the laser further includes a first wavelength of the Bragg grating mode, and a second wavelength at which the gain attributed to the Fabry-Perot modes is the maximum, the first wavelength being greater than the second wavelength at the predetermined temperature.

6. The semiconductor laser of the distributed feedback type according to claim 1, wherein the laser further includes a first wavelength of the Bragg grating mode is the maximum, and a second wavelength at which the gain attributed to the Fabry-Perot mode is the maximum, a difference between the first wavelength and the second wavelength being from -7nm to +8nm at a room temperature.

7. The semiconductor laser of the distributed feedback type according to claim 1, wherein the predetermined temperature is -40℃.

8. The semiconductor laser of the distributed feedback type according to claim 1, wherein the active region is made of InGaAsP with a band gap energy corresponding to 1.55 μm wavelength band.

9. A semiconductor laser of a distributed feedback type for emitting light with plural Fabry-Perot modes and a Bragg grating mode, the laser comprising:

an active region made of InGaAsP for generating luminescence,

a Bragg grating for defining the Bragg grating mode;

a light-reflecting surface for reflecting light generated in the active region; and

a light-emitting surface providing with an anti-reflective coating thereon, the light-emitting surface with the anti-reflective coating having a reflectivity, the light-emitting surface and the light-reflecting surface forms a Fabry-Perot resonator combined with the active region therebetween for defining the plural Fabry-Perot modes,

wherein the reflectivity of the light-emitting surface has a minimum at a predetermined wavelength smaller than a specific wavelength at which a magnitude of the luminescence from the active region is maximum at a room temperature.

10. The semiconductor laser of the distributed feedback type according to claim 9, wherein the predetermined wavelength is 45nm smaller than the specific wavelength.

11. The semiconductor laser of the distributed feedback type according to claim 9, wherein the minimum reflectivity of the light-emitting surface with the anti-reflective coating is smaller than 0.3%.

12. The semiconductor laser of the distributed feedback type according to claim 11, wherein the minimum reflectivity of the light-emitting surface with the anti-reflective coating is smaller than 0.1%.